#10

SEQUENCE LISTING

<110> Li, Zhijian T
Gray, Dennis J

<120> Bi-Directional Dual Promoter Complex with Enhanced Promoter Activity for Transgene Expression in Eukaryotes

<130> 7270-72978

<140> 10/075,105
<141> 2002-02-13

<150> 60/268,358
<151> 2001-02-13

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480

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660

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720

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840

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900

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1020

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1080

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1200

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1260

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1320

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1380

ttaacactaa tgtcatatgc tttcaaatta ataatccgat aaagtctgct aacatgtgac
1440

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<220> ACT2
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120

tcgaagtctg agtaattgaa ttttcttcta tatctgagta attgaatttt cttctatatc
180

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240

cgtaaggaaa ttttatatct attattcaat cctacaacag tgaaagaatt tcgtataagg
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360

atggaggcga gatgaaattc ttttaagtta cctcatgtgg taataattca agtatatttt
420

tattttaata taattaagac agagaacaac caagcgagat agaaaaagac aaaaggacga
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agttggtatt gtatatgttc ttgatgtaaa aggttcgatc tatatagatt gtactgactg
540

aaacatttaa agaaaacggt tcaatttctt ttttttacta caataggttt attatttctc
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660

taccaaaagt agttcatact gattaccgcc gagaatagag tgcactacac tgtaacttta
720

agaaactgaa attgtgatta cagtatacga aagtttaatt attaggctat ttcgacgtct
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960

accatcttag agtatttgaa atccggaata gagaagttaa tccgttaatg aatggaggcg
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1080

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1200

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1260

attacttttt ttactaaatg ataatctcaa caagtcgatt agtgtagtta ataccaaaag
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1380

aattgtgatt acagtatacg aaagtttaat tattaggcta tttcagacga ttgtacactg
1440

aaaggttaaa aaaagaaaat gtttaacgtc tgaaaagttg agaataaggg ataattttgg
1500

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1544

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<211> 1465
<212> DNA
<213> unknown

<220> UBQ-1
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120

taccacaaaa gcttagttga taaaatattt ttatttggtt gtaattttgt aatatcccgg
180

gatatttcac aaattgaaca tagactacag aattttagaa aacaaacttt ctctctctta
240

tctcaccttt atcttttaga gagaaaaagt tcgatttccg gttgaccgga atgtatcttt
300

gtttttttg ttttgtaaca tatttcgttt tccgatttag atcggatctc cttttccgtt
360

ttgtcggacc ttcttccggt ttatccggat ctaataatat ccatcttaga cttagctaag
420

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480

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540

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ttgtgcatat gaaaccttcg actaacgaga agtggtcttt taatgagaga gatatctaaa
660

atgttatctt aaaagcccac tcaaatctca aggcataagg tagaaatgca aatttggaaa
720

gtgggctggg ccttctgcag ttgataaaat atttttattt ggttgtaatt ttgtaatatc
780

ccgggatatt tcacaaattg aacatagact acagaatttt agaaaacaaa ctttctctct
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900

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1080

gaaatttttg acaaataaat cttagaatca tgtagtgtct ttggaccttg ggaatgatag
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1200

ggttttgtgc atatgaaacc ttcgactaac gagaagtggt cttttaatga gagagatatc
1260

taaaatgtta tcttaaaagc ccactcaaat ctcaaggcat aaggtagaaa tgcaaatttg
1320

gaaagtgggc tgggcctttt gtggtaaagg cctgtaacct agcccaatat tagcaaaacc
1380

ctagacgcgt acattgacat atataaaccc gcctcctcct tgtttagggt ttctacgtga
1440

gagaagacga aacacaaaag gatcc
1465

<210> 14
<211> 1465
<212> DNA
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<220> UBQ-1
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<400> 14
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aatatataca gttacatgcg cagatcccaa aacgattata acccgatcca atgtccggaa
120

atggtgtttt cgaatcaact attttataaa aataaaccaa cattaaaaca ttatagggcc
180

ctataaagtg tttaacttgt atctgatgtc ttaaaatctt ttgtttgaaa gagagagaat
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agagtggaaa tagaaaatct ctctttttca agctaaaggc caactggcct tacatagaaa
300

caaaaaaaac aaaacattgt ataaagcaaa aggctaaatc tagcctagag gaaaaggcaa
360

aacagcctgg aagaaggcca ataggcctа gattattata ggtagaatct gaatcgattc
420

aaacctagac aaaaaaccaa tcgagaacag ttagcggagt agtagtcgtt cttccacttt
480

aaaaactgtt tatttagaat cttagtacat cacagaaacc tggaaccctt actatctttg
540

ctaaacaata tcgatgagat acatagtctg ggactggttc taggttgtta gagtatccaa
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660

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720

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780

ggccctataa agtgtttaac ttgtatctga tgtcttaaaa tcttttgttt gaaagagaga
840

gaatagagtg gaaatagaaa atctctcttt ttcaagctaa aggccaactg gccttacata
900

gaaacaaaaa aaacaaaaca ttgtataaag caaaaggcta aatctagcct agaggaaaag
960

gcaaaacagc ctggaagaag gccaaatagg cctagattat tataggtaga atctgaatcg
1020

attcaaacct agacaaaaaa ccaatcgaga acagttagcg gagtagtagt cgttcttcca
1080

ctttaaaaac tgtttattta gaatcttagt acatcacaga aacctggaac ccttactatc
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1200

ccaaaacacg tatactttgg aagctgattg ctcttcacca gaaaattact ctctctatag
1260

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1320

ctttcacccg acccggaaaa caccatttcc ggacattgga tcgggttata atcgttttgg
1380

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<212> DNA
<213> unknown

<220> UBQ-1
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120

tcaagggcaa aaatgacacg gaaaaatata aaaggataag tagtggggga taagattcct
180

ttgtgataag gttactttcc gaagcttagt tgataaaata tttttatttg gttgtaattt
240

tgtaatatcc cgggatattt cacaaattga acatagacta cagaatttta gaaaacaaac
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tttctctctc ttatctcacc tttatctttt agagagaaaa agttcgattt ccggttgacc
360

ggaatgtatc tttgtttttt ttgttttgta acatatttcg ttttccgatt tagatcggat
420

ctccttttcc gttttgtcgg accttcttcc ggtttatccg gatctaataa tatccatctt
480

agacttagct aagtttggat ctgtttttg gttagctctt gtcaatcgcc tcatcatcag
540

caagaaggtg aaatttttga caaataaatc ttagaatcat gtagtgtctt tggaccttgg
600

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660

aatctcatag gttttgtgca tatgaaacct tcgactaacg agaagtggtc ttttaatgag
720

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780

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900

aaactttctc tctcttatct caccttttatc ttttagagag aaaaagttcg atttccggtt
960

gaccggaatg tatctttgtt ttttttgttt tgtaacatat ttcgttttcc gatttagatc
1020

ggatctcctt ttccgttttg tcggaccttc ttccggttta tccggatcta ataatatcca
1080

tcttagactt agctaagttt ggatctgttt tttggttagc tcttgtcaat cgcctcatca
1140

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1200

ttgggaatga tagaaacgat ttgttatagc tactctatgt atcagaccct gaccaagatc
1260

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1320

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1380

aaatgcaaat ttggaaagtg ggctgggcct tggtacccgg aaagtaacct tatcacaaag
1440

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1500

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1560

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1618

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<220> UBQ-1
<223>

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120

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180

aacactattc caatgaaagg cttcgaatca actattttat aaaaataaac caacattaaa
240

acattatagg gccctataaa gtgtttaact tgtatctgat gtcttaaaag cttttgtttg
300

aaagagagag aatagagtgg aaatagaaaa tctctctttt tcaagctaaa ggccaactgg
360

ccttacatag aaacaaaaaa aacaaaacat tgtataaagc aaaaggctaa atctagccta
420

gaggaaaagg caaaacagcc tggaagaagg ccaaataggc ctagattatt ataggtagaa

480

tctgaatcga ttcaaaccta gacaaaaaac caatcgagaa cagttagcgg agtagtagtc
540

gttcttccac tttaaaaact gtttatttag aatcttagta catcacagaa acctggaacc
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cttactatct ttgctaaaca atatcgatga gatacatagt ctgggactgg ttctaggttg
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780

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900

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960

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agaatctgaa tcgattcaaa cctagacaaa aaaccaatcg agaacagtta gcggagtagt
1140

agtcgttctt ccactttaaa aactgtttat ttagaatctt agtacatcac agaaacctgg
1200

aacccttact atctttgcta aacaatatcg atgagataca tagtctggga ctggttctag
1260

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1320

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1380

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1440

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1500

aaaggatata ttccttggtt caagccgtaa acacttttgt tctttttaa accacattcg
1560

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1618

<210> 17
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<212> DNA
<213> unknown

<220> CaMV 35S
<223>

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aaggatagtg ggattgtgcg tcatcccttа cgtcagtgga gatactgcag aagcttcaga
120

ctcattaact taaaagaaga tatagactca ttaacttaaa agaagatata gattccaaca
180

caagttcaaa attcataaac gtcaatcttg gctaaatttc tgaacatcaa tgcattcctt
240

taaaatatag ataataagtt aggatgttgt cactttctta aagcatattc cgactgagtc
300

tggtagaatc tcataaactt taggccttat ctcttcaatt aggcaattac ttacctccgc
360

tctactttaa gaaaattcaa tggagtacac cattattaag ttcatataaa aataaaatta
420

tattaattct gtctcttgtt ggttcgctct atctttttct gttttcctgc ttcaaccata
480

acatatacaa gaactacatt ttccaagcta gatatatcta acatgactga ctttgtaaat
540

ttcttttgcc aagttaaaga aaaaaaatga tgttatccaa ataataaaga gaaagagccc
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660

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720

ttaacactaa tgtcatatgc tttcaaatta ataatccgat aaagctgcag actcattaac
780

ttaaaagaag atatagactc attaacttaa aagaagatat agattccaac acaagttcaa
840

aattcataaa cgtcaatctt ggctaaattt ctgaacatca atgcattcct ttaaaatata
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960

ctcataaact ttaggcctta tctcttcaat taggcaatta cttacctccg ctctacttta
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1080

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1140

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1200

caagttaaag aaaaaaaatg atgttatcca aataataaag agaaagagcc ctaatgaaaa
1260

aaatgattta ctattagagt tgttcagcta atcacatcaa ttatggtttt catcaagtat
1320

gactaatggc ggctcttatc tcacgtgatg tgacattgaa attctttgac tttaacacta
1380

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1440

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1524

<210> 18
<211> 1524
<212> DNA
<213> unknown

<220> CaMV 35S
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<400> 18
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ttcctatcac cctaacacgc agtagggaat gcagtcacct ctatgacgtc ttcgaagtct
120

gagtaattga attttcttct atatctgagt aattgaattt tcttctatat ctaaggttgt
180

gttcaagttt taagtatttg cagttagaac cgatttaaag acttgtagtt acgtaaggaa
240

attttatatc tattattcaa tcctacaaca gtgaaagaat ttcgtataag gctgactcag
300

accatcttag agtatttgaa atccggaata gagaagttaa tccgttaatg aatggaggcg
360

agatgaaatt cttttaagtt acctcatgtg gtaataattc aagtatattt ttattttaat
420

ataattaaga cagagaacaa ccaagcgaga tagaaaaaga caaaaggacg aagttggtat
480

tgtatatgtt cttgatgtaa aaggttcgat ctatatagat tgtactgact gaaacattta
540

aagaaaagcc ttcaatttct ttttttttact acaataggtt tattatttct ctttctcggg
600

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660

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720

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780

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840

ttaagtattt gcagttagaa ccgatttaaa gacttgtagt tacgtaagga aattttatat
900

ctattattca atcctacaac agtgaaagaa tttcgtataa ggctgactca gaccatctta
960

gagtatttga aatccggaat agagaagtta atccgttaat gaatggaggc gagatgaaat
1020

tcttttaagt tacctcatgt ggtaataatt caagtatatt tttattttaa tataattaag
1080

acagagaaca accaagcgag atagaaaaag acaaaaggac gaagttggta ttgtatatgt
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1200

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1260

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1320

ctgattaccg ccgagaatag agtgcactac actgtaactt taagaaactg aaattgtgat
1380

tacagtatac gaaagtttaa ttattaggct atttccatgg atagaggtga ctgcattccc
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1500

taaacctctc ctgtgcgacc tagg
1524